

REMARKS

Summary

Claims 1, 2, 9, 10 and 36 were pending, and all of the claims were rejected. New Claims 68 and 69 have been presented. No new matter has been introduced. Claims 1, 2, 9-10, 36 and 68-69 are pending after the entry of this amendment. The Applicants have carefully considered the references and reasons advanced by the Examiner and respectfully traverse the rejections in view of the amendments and the discussion presented below.

Claim Rejections

35 U.S.C. § 102 (b)

Claims 1-2 and 36 were rejected under 35 U.S.C. § 102 (b) as anticipated by Lehman et al. (US 2,867,762; "Lehman").

Claim 1 recites, *inter alia*, [a]n inner rotor motor....

Whether a preamble or introductory clause constitutes a limitation on a claim is a matter to be determined by the facts of each case in view of the claimed invention as a whole. *In re Stencel*, 828 F.2d 751, 754, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987); *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 480-81 (CCPA 1951).

The structure identified in Lehman by the Examiner, comprising a rotor (15), a stator (18) and a coil (16, 17) provided on each of the magnetic pole teeth, is not a motor. It is clearly identified by Lehman as "an independent alternating-current generator" (column 2, lines 37-39) (emphasis added).

The function of a generator is to convert mechanical energy into electrical energy. As such it must inherently include in its structure a shaft or other mechanical input mechanism connected to a source of mechanical power, and an electrical output connected to an electrical load. The characterization by Lehman of a grouping of elements as a generator implies the presence of such elements as the input shaft shown by the dotted line in Fig. 1 (Id.), and an electrical output terminal, else the generator would be inoperative. The elements of Lehman that the Examiner has cited teach a generator, not a motor, and when the overall structure is considered, the elements identified are inoperative as a motor. Therefore Claim 1 is not anticipated by Lehman, nor is Claim 36 for the same reasons. Claim 2 is allowable as a claim dependent on an otherwise allowable claim.

Claims 1-2 and 36 were rejected under 35 U.S.C. § 102 (b) as anticipated by Kawamura. (US 5,341,060: "Kawamura").

The structure taught by Kawamura is termed "a rotary electric machine" by the inventor and "an inner rotor machine" by the Examiner. The Examiner also states that "inner rotor machine" is not given patentable weight. The structure taught by Kawamura cannot function as a motor unless it is first set in rotary motion in the desired direction by a mechanical force; it is intended to be a generator. As the Examiner acknowledges that the overall description of the invention as an inner rotor machine does not warrant patentable weight, then the preamble to the present Claim 1 distinguishes over the reference.

In Fig. 1, the rotary electric machine is associated with the engine 1, and not with the turbocharger 12. Indeed, Figs. 2 and 3 also associate the rotary electric machine with the engine. Specifically, element 15 is described as a rotatable crankshaft which is a component of a reciprocating engine and not a turbocharger. Therefore, the structure identified by the Examiner, comprising a rotor (2), a stator (33) having a plurality of magnetic teeth (31, 32) is not a motor.

It is clearly identified by Kawamura as “a flywheel generator ... for generating electric energy...” (column 1, lines 11-14) (emphasis added).

This is confirmed by the statement: “To the rotatable shaft [15] of the engine 1, there is coupled the flywheel 2 having a plurality of permanent magnets 21...” (column 2, lines 41-43, Id.). As such, it is the engine that rotates the shaft and causes the generator to produce electricity rather than consume electricity.

Correspondingly, a motor must have an electrical input terminal and a mechanical output mechanism. That is, electrical energy is introduced at the electrical input terminal and mechanical energy output is output through the mechanical output mechanism. These features are necessarily present in an apparatus described as a motor. Since these elements are different in the references which are generators, (viz., the mechanical shaft is an input mechanism in a generator and an output mechanism in a motor) the references cited do not teach each of the elements of the arrangements of the present Claim 1.

The specification, but not the figures, appears to associate another rotary electric machine with the turbocharger (column 3, lines 5-8), but even if such a rotary electric machine did exist, it is not described. Further, assuming it had a structure in accordance with Fig. 2, it must first be set in rotary motion by the turbine associated with the turbocharger, as the poles of the stator 32 are symmetrical with each pair of the permanent magnet poles 21 and there is no preferred direction of motion from an initially static situation. So, Kawamura does not teach a device operable as a motor.

For at least these reasons, the Applicants respectfully submit that the reference does not teach the all of the elements, limitations and the arrangement of Claim 1 and 36 and a *prima facie* case of anticipation cannot be made out.

Claim 2 is allowable as a claim dependent on allowable Claim 1. The reasons for allowance of Claim 36 parallel those for Claim 1.

35 U.S.C. §103 (a)

Claims 9 and 10 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Lehman in view of Tajima et al. (US 5,432,644; "Tajima").

Claims 9 and 10 are claims dependent on Claim 1, which the Applicant submits is allowable. As such, without more, these claims are allowable as claims further limiting an allowed claim.

Claim 9 is independently patentable as Tajima teaches exactly the opposite of Claim 9. In Fig. 5 of Tajima, the magnetic poles and the stator subtend an angle greater than 180° with respect to the center of rotation of the rotor (column 6 lines 45-48), whereas the arrangement of Claim 1 has a stator which extends not more than 180° with respect to a central angle of the rotor. The primary reference cited is Lehman, which teaches two magnetic poles in the stator, facing opposite a rotor with four salient poles. Thus the stator poles subtend an angle of about 90° . Taking the Examiner's suggestion to increase the number of stator poles to six, would result in a stator subtending an angle of 270° , which is greater than the 180° angle restriction in Claim 1. There is no motivation to combine the teachings of the two references and to limit the angular extent of the stator to not more than 180° . Such a motivation could only arise from reading the arrangement of Claim 1 into the references cited. Absent the suggestion made in the arrangement of Claim 1, there is no reasonable expectation of success, as Lehman teaches generators. Therefore, Claim 9 should not have been rejected, as a *prima facie* case of obviousness cannot be made out. MPEP 2143.02. Moreover, adopting the Examiner's approach would require changing the principle of operation of the reference which is not permissible in an obviousness inquiry. MPEP 2143.01.

In addition, combining the teachings of Lehman and Tajima would render the apparatus inoperative, since Lehman requires a single-phase electrically-commutated excitation and Tajima requires 3-phase excitation to work. The Federal Circuit has held that "a proposed modification[is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose. *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)." *In re Fritch*, 972 F.2d 1260, 1265-1266 n.12, 23 USPQ2d 1780, 1783 n.12 (Fed. Cir.1992).

Claim 9 was also rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kawamura in view of Sleder (US 4,160,435: "Sleder"). Sleder is directed towards an alternator, which is a form of electrical generator, not a motor. Since neither Kawamura nor Sleder is operable as a motor, any combination of the teachings is not a motor, and thus does not constitute the teaching all of the elements of the arrangement of Claim 9. Since the combination of the references does not teach all of the elements of Claim 9, a *prima facie* case of obviousness has not been made out. MPEP 2143.03.

New Claims

New Claim 68 recites, *inter alia*, [a]n inner rotor motor comprising: a magnetic balancer for securing magnetic balance between the rotor and the stator is provided on the outer side of the circumference of the rotor, and is integral with a chassis to which the rotor is rotatably installed, the chassis being formed of a magnetic material.

This feature of the arrangement of Claim 68 is not found in any of the references cited by the Examiner, and the Applicant respectfully submits that Claim 68 is allowable. Claim 69 is allowable as a claim dependent on and further limiting an allowable independent claim.

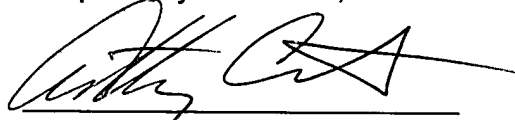
Conclusion

New Claims 68-69 have been presented. Claims 1, 2, 9-10, 36 and 68-69 are pending.

For at least the reasons given above, the Applicant respectfully submits that Claims are allowable.

The Examiner is respectfully requested to contact the undersigned in the event that a telephone interview would expedite consideration of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Anthony P. Curtis', written over a horizontal line.

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